

REMARKS

Claims 1-18, 20, 25, 35, 37 and 43-44 have been previously canceled. Claims 24 and 34 are currently canceled. Claims 19, 21-23, 26, 28, 36, and 38-39 have been amended by way of this response. No new claims have been added. Thus, claims 19, 21-23, 26-33, 36, and 38-42 are currently pending and presented for examination.

Response to objections to:

Claims 19, 23, 34, 36, 38-39 and 41 stand objected to because of informalities. In all the claims mentioned by the Examiner where ‘the addition’ was objected to, Applicant has amended the claim as suggested by the Examiner to ‘addition’. Applicant has also amended the other instances of antecedent basis that were mentioned by the Examiner except for ‘the group’ in claims 23 and 38 as ‘the group’ is common terminology in a Markush claim where

One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being “selected from the group consisting of A, B, and C.” MPEP 2173.05(h)

Applicant respectfully requests that the Examiner withdraws the objections.

Response to rejections under 35 U.S.C. 112:

Claims 21-22, 26, 34, and 36 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 21-22 have been amended to change their dependency, respectfully, to claim 19. Claim 26 has been amended to change the term ‘the superalloy’ to ‘the nickel-based superalloy’ and fixed the antecedent basis issue. Claim 34 has been canceled rendering this rejection moot. Claim 36 has been amended changing ‘the gamma phase’ to ‘a gamma phase’. Applicant respectfully requests that the Examiner withdraws the 112 rejections.

Response to rejections under 35 U.S.C. 102:

Claims 23-24, 26, and 40 stand rejected under 35 U.S.C. 102 (b) as being anticipated by Bicicchi (GB 1,534,399).

Applicant has amended claim 23 to include the features:

wherein the component consists of a **nickel-based** superalloy, and
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wherein a material of the component includes an isotropic distribution, directionally solidified, or single-crystal grain structure.

Support for the feature may be found in paragraphs [0013, and 0029-0030]. By contrast, Bicicchi clearly states on page 2 lines 22-24 that “the present invention relates to a forged turbine bucket formed from an alloy having a **martensitic** structure” (i.e. steel). With the feature, “wherein the component consists of a nickel-based superalloy” added to claim 23, it is now clear that Applicant’s gas turbine high temperature resistant component, does not include steel. Thus, Bicicchi forged turbine bucket cannot be equated to Applicant’s gas turbine high temperature resistant component.

MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim.

Applicant respectfully requests that the Examiner withdraws the 102 rejections.

Response to Rejection 1 under 35 U.S.C. 103:

Claims 19, 38-39 and 41-42 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Bicicchi in view of Patterson (US 4,023,919).

Similarly to the amendment made to claim 23 as referenced in the previous section, claims 19, 38, and 39 have been amended to add the features:

a nickel-based superalloy of the component ...

wherein a material of the component includes an isotropic distribution, directionally solidified, or single-crystal grain structure.

As such Applicant’s component does not include steel which is iron-based. Also, as stated above Bicicchi’s forged turbine bucket includes steel and thus, Bicicchi does not teach or suggest Applicant’s high temperature gas turbine component. In addition, Bicicchi does not include a reason to include the tin and thus Applicant argues that it is not a strength promoter at all, but an impurity as evidenced by the fact that the range includes 0. By contrast, Applicant requires a strength promoter and thus tin must be present.

Furthermore, it is respectfully submitted that Patterson fails to remedy the deficiencies of Bicicchi noted above regarding the claimed invention. Without conceding the propriety of the asserted combination, applicant respectfully submits that the asserted combination does not disclose the features of the claims.

Response to Rejection 2 and 3 under 35 U.S.C. 103:

Claims 19, 21-24, 26-34, 39, and 40 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Burgel (US 7,055,015) in view of Bicicchi or Clark (US 4,962,586) or Bodnar (US 5,108,699) or Boyle (US 3,139,337). Claims 38 and 41-42 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Burgel in view of Bicicchi or Clark or Bodnar or Boyle and Taylor (US 3,631,674).

On page 14 of the Office Action the Examiner acknowledges Burgel does not disclose that “the precipitation strengthened by the addition of 50 ppm to 500 ppm of a strength promoter selected from the group consisting of: zinc, tin, gallium, selenium, and arsenic.” As stated above in the Response to rejections under the U.S.C.102 section, Bicicchi will not remedy this deficiency as Bicicchi’s turbine bucket includes steel and Applicant’s component does not include steel. Likewise, Clark, Boyle, and Bodnar cannot be used to remedy Burgel either as all of these inventions include steel as mentioned for example in Clark’s Abstract, “turbine rotor is formed from tow rotor segments that are composed of different low alloy steels, one a high temperature alloy and the other a low temperature alloy”. The Examiner mentions on Page 15 of the Office Action that Boyle and Bodnar’s alloys include steel which can also be found in each of their Abstracts respectively.

Because Bicicchi, Clark, Bodnar, and Boyle all include steel as the alloy used, it is respectfully submitted that they all fail to remedy the deficiencies of Burgel noted above regarding the claimed invention. Without conceding the propriety of the asserted combination, applicant respectfully submits that the asserted combination does not disclose the features of the claims.

For at least these reasons discussed, Applicant respectfully submits that these claims are patentable and respectfully request the examiner to withdraw the rejections under 35 U.S.C. 103.

Conclusion

For at least the foregoing reasons, it is respectfully submitted that the objections and rejections set forth in the outstanding office action are inapplicable to the present claims. Applicant respectfully requests allowance of the pending claims. Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including fees for additional claims and terminal disclaimer fee, or credit any overpayments to deposit account no. 19-2179.

Respectfully submitted,

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